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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

**RECEIVED**

Applicants: McManus et al.

Serial No.: ~~10/762,091~~ 10/726091 Case No.: 21191

Filed: December 2, 2003

For: REDUCTIVE ALKYLATION OF SATURATED CYCLIC AMINES

MAY 28 2006

Art Unit:

1626 TECH CENTER 1600/2000

Examiner:

Sackey, Ebenezer O.

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

RESPONSE TO RESTRICTION REQUIREMENT

Sir:

This communication is in response to the Office Action mailed March 27, 2006, which set a one-month period for response that expires today. Claims 1-26 are pending. The Examiner has required restriction under 35 U.S.C. § 121 to one of the inventions I, II, III, and IV as set forth on page 2 of the Office Action. Group I (claims 1-13) is elected with traverse.

The processes of Groups I-IV are more remarkable for their similarities than their differences. All of the processes are directed to the reductive alkylation of a cyclic amine and all are concerned with the production of an alkylated cyclic amine product free of any borane complexes thereof. In Group I, the starting cyclic amine is reacted with a suitable aldehyde in the presence of an alkylcarboxylic acid with removal of by-product water to afford an iminium salt, to which is added a tetrahydroborate salt to obtain the desired alkylated cyclic amine plus borane complexes thereof, which is treated with a Pt or Pd catalyst in the presence of an alcohol to provide the desired alkylated cyclic amine free of borane complexes. Group II is related to Group I as species to genus; i.e., Group II employs the same chemistry as Group I, but has more narrowly defined reactants and products. The claims of Group II could have been written to depend from claim 1 of Group I.

Group III employs the same reactants as Group I (i.e., an aldehyde of Formula II, a cyclic amine of Formula III, an alkylcarboxylic acid, and a tetrahydroborate salt) to obtain the same product as Group I (i.e., an alkylated cyclic amine of Formula I). The chemistry differs only in that it does not involve the use of a Pt or Pd catalyst with alcohol to remove the borane complexes. Group IV is related to Group III as species to genus; i.e., Group IV employs the

FEE VALUE ACCOUNTABILITY	
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PATENT  
CASE NO. 21191

Commissioner of Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: MCMANUS, ET AL.Serial No. 10/162091 10/726091 ✓Filed December 2, 2003Group Art Unit 11626Examiner Sackey, Ebenezer O.For: REDUCTIVE ALKYLATION OF SATURATED CYCLIC AMINES

Transmitted herewith is an amendment in the above-identified application.

☒ No additional fee is required.☐ The fee has been calculated as shown below.

## CLAIMS AS AMENDED

(1)	(2) Claims remaining after amendment	(3)	(4) Highest Number Previously Paid For	(5) Present Extra	(6) Rate	(7) Additional Fee
Total Claims	* _____	-	** <u>20</u> =	<u>0</u> X	\$50	= <u>0.00</u>
Independent Claims	* _____	-	*** <u>3</u> =	<u>0</u> X	\$200	= <u>0.00</u>
Multiple Dependent Claims					\$360 ****	= _____
TOTAL ADDITIONAL FEE FOR THIS AMENDMENT						0.00

\* If the entry in Column 2 is less than the entry in Column 4, write "0" in Column 5.

\*\* If the "Highest Number Previously Paid For" in this space is less than 20, write "20" in this space.

\*\*\* If the "Highest Number Previously Paid For" in this space is less than 3, write "3" in this space.

\*\*\*\* Add this fee only if application is amended to include multiple dependent claims (regardless of number) and no multiple dependent claims were originally filed.

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## EXPRESS MAIL CERTIFICATE

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Respectfully,

Kenneth R. Walton

By: Kenneth R. Walton

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Date: May 1, 2006

IN DUPLICATE